

Observations of Occultations of Stars and Planets by the Moon and of Phenomena of Jupiter's Satellites made at the Royal Observatory, Greenwich, in the Year 1898.

(Communicated by the Astronomer Royal.)

Day.	Phenomenon.	Telescope.	Power.	Moon's Limb.	Mean Solar Time of Observation. h m s	Observer.
1898. Jan. 3	Disapp. 17 Tauri	28-inch Equat.	300	Dark	7 13 8·5	D.
3	" "	Altazimuth	100	"	7 13 8·5	H.
3	" "	Sheepshanks Equat.	100	"	7 13 8·5	D. E.
3	" "	Astrographic Equat.	225	"	7 13 8·5	W. B.
3	" "	Detached Tel. No. 3	100	"	7 13 8·9	W.
3	" "	Astrographic Equat.	225	"	7 25 23·4	W. B.
3	B.D. + 23° No. 510	28-inch Equat.	300	"	7 41 8·2	D.
3	B.D. + 23° No. 517	Corbett Tel.	100	"	7 41 9·1	H.
3	" "	Sheepshanks Equat.	100	"	7 41 9·7	D. E.
3	" "	28-inch Equat.	300	"	8 1 26·7	D.
3	23 Tauri	Merz Tel.	?	"	8 1 (279)	C.
3	" "	Corbett Tel.	100	"	8 1 26·7	H.
3	" "	Sheepshanks Equat.	100	"	8 1 26·8	D. E.
3	" "	28-inch Equat.	300	"	8 4 58·8	D.
3	W.B. (2) III. 845	Corbett Tel.	100	"	8 4 59·4	H.
3	" "	Sheepshanks Equat.	100	"	8 4 59·5	D. H.
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Day	Phenomenon.	Telescope.	Power.	Moon's Limb.	Mean Solar Time of Observation.	Observer.
1898. Jan. 3	Disapp. W.B. (2) III. 846	28-inch Equat. Corbett Tel.	300 100	Dark ,	8 5 32.0 8 5 33.0	D. H.
3	" "	Sheepshanks Equat.	100	,	8 5 32.7	D. E.
3	" "	28-inch Equat.	300	,	8 20 8.5	D.
3	" B.D. + 23° No. 523	Corbett Tel.	100	,	8 20 8.1	H.
3	" "	Sheepshanks Equat.	100	,	8 20 8.6	D. E.
3	" "	28-inch Equat.	300	Bright	8 27 (33.5)	D.
3	Reapp. 17 Tauri	Merz Tel.	?	,	8 27 (35.6)	C.
3	" "	Corbett Tel.	100	,	8 27 32.0	H.
3	" "	Sheepshanks Equat.	100	,	8 27 (38.3)	D. E.
3	" "	Altazimuth	100	,	8 27 (39.0)	W.
3	Disapp. B.D. + 23° No. 528	Sheepshanks Equat.	100	Dark	8 31 9.5	D. E.
3	" B.D. + 23° No. 531	28-inch Equat.	300	,	8 37 22.7	D.
3	" "	Sheepshanks Equat.	100	,	8 37 23.0	D. E.
3	" B.D. + 23° No. 534	28-inch Equat.	300	,	8 39 27.3	D.
3	" "	Sheepshanks Equat.	100	,	8 39 28.6	D. E.
3	" 24 Tauri	28-inch Equat.	300	,	8 39 59.3	D.
3	" "	Corbett Tel.	100	,	8 40 0.2	H.
3	" "	Sheepshanks Equat.	100	,	8 39 59.1	D. E.
3	" "	Merz Tel.	?	,	8 40 0.5	E. S.

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of Stars by the Moon etc.

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Day. 1898.	Jan.	Phenomenon.	Telescope.	Power.	Moon's Limb.	Mean Solar Time of Observation. h m s	Observer.
3	"	Disapp. η Tauri	28-inch Equat.	300	Dark	8 45 10.3	D.
3	"	"	Merz Tel.	?	"	8 45 11.2	C.
3 (a)	"	"	Corbett Tel.	100	"	8 45 10.7	H.
3	"	"	Sheepshanks Equat.	100	"	8 45 11.1	D. E.
3	"	"	Altazimuth	100	"	8 45 10.9	W.
3	"	"	Finder of Thompson Equat.	?	"	8 45 10.2	E. S.
3	"	"	28-inch Equat.	300	"	8 57 21.4	D.
3	"	Pi III. 151	Corbett Tel.	100	"	8 57 21.5	H.
3	"	"	Sheepshanks Equat.	100	"	8 57 21.9	D. E.
3	"	"	28-inch Equat.	300	Bright	9 11 4.2	D.
3	"	"	Corbett Tel.	100	"	9 11 4.1	H.
3	"	"	Altazimuth	100	"	9 11 3.8	W.
3	"	"	Sheepshanks Equat.	100	Dark	9 25 29.6	D. E.
3	"	Disapp. B.D. + 23° No. 549	28-inch Equat.	300	"	9 38 14.6	D.
3	"	Bradley 523	Corbett Tel.	100	"	9 38 14.8	H.
3	"	"	Sheepshanks Equat.	100	"	9 38 14.4	D. E.
3	"	"	Corbett Tel.	100	"	9 53 52.2	D.
3	"	"	Merz Tel.	?	"	9 53 51.9	C.
3	"	"	28-inch Equat.	300	"	9 53 52.4	H.
3	"	"	Sheepshanks Equat.	100	"	9 53 52.5	D. E.

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Day.	Phenomenon.	Telescope.	Power.	Moon's limb.	Mean Solar Time of Observation.	Observer.
Jan. 3 898	Disapp. 28 Tauri	Altazimuth	100	Dark	9 53 52·8	W.
3	" 27 Tauri	Corbett Tel.	100	"	9 59 46·7	D.
3	" "	Merz Tel.	?	"	9 59 (47·9)	C.
3	" "	28-inch Equat.	300	"	9 59 46·9	H.
3	" "	Sheepshanks Equat.	100	"	9 59 47·1	D. E.
3	" "	Altazimuth	100	"	9 59 47·1	W.
3	" "	Sheepshanks Equat.	100	"	10 3 19·0	D. E.
3	" B. D. + 23° No 562	28-inch Equat.	300	Bright	10 8 6·9	H.
3	Reapp. η Tauri	Sheepshanks Equat.	100	Dark	10 11 37·7	D. E.
3	Disapp. W. B. (2) III. 903.	Merz Tel.	?	Bright	10 58 52·2	E. S.
Mar. 13 (b)	Reapp. 27 Tauri	Sheepshanks Equat.	100	"	14 39 3·8	B.
13	Disapp. Antares	" "	100	Dark	15 49 2·1	"
Apr. 23 (c)	Reapp. Antares	" "	100	"	9 45 37·2	"
29	Disapp. 62 Tauri	Astrographic Equat.	250	"	12 59 23·3	W. B.
May 2	" ξ Leonis	Sheepshanks Equat.	100	"	11 23 58·1	A. C.
22 (c)	" Pi XI. 167	" "	100	"	6 53 54·0	B.
22	" Venus 1st Limb	28-inch Equat.	450	"	6 54 38·4	L.
22	" Venus 2nd Limb	Astrographic Equat.	225	"	6 54 36·9	H.
22	" "	Sheepshanks Equat.	100	"	6 54 37·5	B.

Day. 1898.	Phenomenon.	Telescope.	Power.	Moon's Limb.	Mean Solar Time of Observation. h m s	Observer.
May 22	Disapp. Venus 2nd Limb	Corbett Tel.	70	Dark	6 54 36.9	W. B.
	Reapp. Venus 1st Limb ^b	Astrographic Equat.	225	Bright	7 31 16.2	H.
22	" Venus 2nd Limb	" "	225	"	7 31 51.3	H.
	" "	Sheepshanks Equat.	100	"	7 31 49.8	B.
June 5	" "	Altazimuth	100	Dark	11 22 5.3	S.
	" " λ Sagittarii	Sheepshanks Equat.	55	Bright	1 30 31.1	A. C.
Sept. 9 (e)	Disapp. Mars 1st Limb	" "	55	"	1 30 40.1	A. C.
	" Mars 2nd Limb	16 Piscium	55	Dark	13 38 33.5	W. B.
28	" "	"	225	"	13 38 32.8	H. F.
	" "	Astrographic Equat.	225	"	7 8 50.6	H. F.
Nov. 22	" "	19 Piscium	225	"	7 8 50.7	P. M.
	" "	Sheepshanks Equat.	100	"	11 48 59.0	B.
22	" "	"	100	"	9 3 20.8	H. F.
	Reapp. W. B. (2) V. 1577	Corbett Tel.	100	"	10 II 18.2	S.
Dec. 23	Disapp. 47 Arietis	Astrographic Equat.	225	Bright		
	Reapp. " "					

Notes.

- (a) Seemed to take 0.2 sec. to disappear. The time noted is that of final disappearance.
- (b) Seemed to encroach on limb before disappearance.
- (c) Not considered a good observation.
- (d) Not considered a good observation. Reappeared very near the bright limb. Cloudy.

Phenomena of Jupiter's Satellites.

Day.	Satellite.	Phenomenon.	Telescope.	Power	Mean Solar Time of Observation.	Mean Solar Time of N.A.	Observer.
Feb. 7 1898.	II. (a)	Occ. R. First seen	Altazimuth	100	II 42 45.8	II 40	A. C.
	II.	Bisection	"	"	II 44 59.81	"	"
7	II.	Last contact	"	"	II 49 3.07	"	B.
	I. (b)	Ecl. D. Last seen	Sheepshanks Equat.	120	II 44 56.06	II 45 50	"
Mar. 2 2	II. (c)	Tr. Ing. First contact	"	"	II 41 36.61	II 51	"
	II.	Last contact	"	"	II 48 5.54	"	"
2	II. (d)	Tr. Egr. First contact	"	"	II 13 11.75	II 19	"
	II.	Bisection	"	"	II 17 11.10	"	"
2	II.	Last contact	"	"	II 20 37.53	"	"
	I.	Tr. Ing. First contact	"	"	II 18 51.39	II 21	A. C.
Apr. 16 16	I.	Bisection	"	"	II 20 46.08	"	"
	I.	Last contact	"	"	II 22 50.73	"	"
16	I.	Occ. D. First contact	"	"	II 120	II 1.65	7
	II.	Bisection	"	"	II 8 5 21.27	"	B.
19	II.	Last seen	"	"	II 8 8 20.78	"	"
	I.	Tr. Ing. First contact	"	"	II 17 57.09	II 20	A. C.
May 2 2	I.	Bisection	"	"	II 19 55.76	"	"
	I.	Last contact	"	"	II 22 34.33	"	H.
2	I.	Occ. D. First contact	"	"	II 27 8.15	II 29	"
	I.	Bisection	"	"	II 28 52.86	"	"
3	I.	Last seen	"	"	II 30 42.57	"	"
	II. (e)	Ecl. R. First seen	"	"	II 55 54.28	II 56 6	A. C.

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of Jupiter's Satellites.

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Day.	Satellite.	Phenomenon.	Telescope.	Power.	Mean Solar Time of Observation.	Mean Solar Time of N.A.	Observer.
					h m s	h m s	A.C.
May 14 1898.	II.	Full brightness	Sheepshanks Equat.	120	8 57 47'96	9 24	"
18	I.	Tr. Ing. First contact	"	"	9 23 27'79	9 24	"
18	I.	Bisection	"	"	9 26 5'35	"	"
18	I.	Last contact	"	"	9 28 11.02	"	"
18	I.	Tr. Egr. First contact	"	"	11 36 46'99	11 40	"
18	I.	Bisection	"	"	11 38 39'68	"	"
18	I.	Last contact	"	"	11 41 4'30	"	"
June 10	I.	Tr. Ing. First contact	"	"	9 27 50'26	9 27	W.
10	I.	Bisection	"	"	9 29 29'99	"	"
10	I.	Last contact	"	"	9 31 59'58	"	"
10	III.	Tr. Ing. First contact	"	"	10 23 1'20	10 23	"
10	III.	Bisection	"	"	10 25 10'84	"	"
10	III.	Last contact	"	"	10 27 0'54	"	"
21	III. (J)	Ecl. D. Began to fade	Astrog. Equat.	225	9 39 23'21	9 41 11	C. D.
21	III.	Bisection	"	"	9 41 12'91	"	"
21	III.	Last seen	"	"	9 46 21'06	"	"

Notes.

- (a) Jupiter unsteady. (b) Cloudy. (c) Cloudy, definition very bad.
 (d) Probably late. (e) Twilight and slight haze. (f) Definition poor.

The initials D., C., L., H., A. C., B., C. D., D. E., W. B., H. F., S., W., P. M., and E. S., are those of Mr. Dyson, Mr. Cowell, Mr. Lewis, Mr. Hollis, Mr. Crommelin, Mr. Bryant, Mr. Davidson, Mr. Edney, Mr. Bowyer, Mr. Furner, Mr. Showell, Mr. Witchell, Mr. Melotte, and Mr. Skells respectively.

Royal Observatory, Greenwich : 1899 January 12.